UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS
WESTERN DIVISION

BRIAN KAZAK,
Plaintiff,

v.

3M COMPANY; AGC CHEMICALS AMERICAS, INC.; AMEREX CORPORATION; ARCHROMA U.S., INC.; ARKEMA, INC.; BUCKEYE FIRE EQUIPMENT; CARRIER GLOBAL CORPORATION; CHEMGUARD, INC.; CORTEVA, INC., DEEPWATER CHEMICALS, INC., DYNAX CORPORATION; DUPONT DE NEMOURS, INC.; EIDP, INC. (f/k/a E.I. DU PONT DE NEMOURS & CO.); FIRE-DEX, LLC; GLOBE MANUFACTURING CO LLC; HONEYWELL SAFETY PRODUCTS USA, INC.; JOHNSON CONTROLS, INC.; LION GROUP, INC.; MINE SAFETY APPLIANCES COMPANY LLC; NATIONAL FOAM, INC.; PBI PERFORMANCE PRODUCTS, INC.; PERIMETER SOLUTIONS, LP; STEDFAST USA, INC.; SOUTHERN MILLS INC. D/B/A TENCATE PROTECTIVE FABRICS; THE CHEMOURS COMPANY; TYCO FIRE PRODUCTS, L.P.; W.L. GORE & ASSOCIATES, INC.,
Defendants.

CIVIL ACTION NO.: _____

COMPLAINT
(Jury Trial Demanded)

Plaintiff Brian Kazak ("Plaintiff"), by and through his attorneys of record, alleges as follows:

INTRODUCTION

1. Plaintiff resides in Granby, Massachusetts. He is a former firefighter who served in the Granby Fire Department for approximately four to five years, from 2005 to 2009, and the Northampton Fire Department for approximately twelve to thirteen years, from 2009 to 2021.

2. Plaintiff brings this action for monetary damages and appropriate equitable and injunctive relief for harm resulting from exposure to perfluoroalkyl and polyfluoroalkyl substances ("PFAS") that were manufactured, designed, sold, supplied, distributed, and/or contained in products manufactured, designed, sold, supplied and/or distributed by each of the Defendants, individually or through their predecessors or subsidiaries.

3. PFAS are human-made chemicals consisting of a chain of carbon and fluorine atoms used in manufactured products to, among other things, resist and repel oil, stains, heat and water. PFAS include "long-chain" PFAS made up of seven or more carbon atoms ("long-chain PFAS") as well as "short-chain" PFAS made up of six or fewer carbon atoms ("short-chain PFAS").

4. PFAS are known as "forever chemicals" because they are highly resistant to degradation, bio-accumulate in individual organisms and humans, and increase in concentration up the food chain. PFAS exposure in humans can occur through inhalation, ingestion, and dermal contact.

5. PFAS have been associated with multiple and serious adverse health effects in humans including cancer, tumors, liver damage, immune system and endocrine disorders, high cholesterol, thyroid disease, ulcerative colitis, birth defects, decreased fertility, and pregnancy induced hypertension. PFAS have also been found to concentrate in human blood, bones, and organs and, most recently, to reduce the effectiveness of vaccines, a significant concern in light

of COVID-19. PFAS have also been found to cause epigenetic changes associated with carcinogenesis.

6. Unbeknownst to Plaintiff, Defendants have manufactured, marketed, distributed, sold, and/or used PFAS and PFAS-containing materials in protective clothing specifically designed for firefighters ("turnouts") and in non-military specification Class B firefighting foams ("Class B foam").

7. For decades, Defendants were aware of the toxic nature of PFAS and the harmful impact these substances have on human health. Yet, Defendants manufactured, designed, marketed, sold, supplied, and/or distributed PFAS and PFAS chemical feedstock, as well as PFAS-containing turnouts and Class B foam, to firefighting training facilities and fire departments nationally, including the Granby and Northampton Fire Departments during the relevant times. Defendants did so without ever informing firefighters or the public that turnouts and Class B foams contained PFAS, and without warning of serious health injuries that can result from exposure to PFAS or PFAS-containing materials. Even worse, Defendants concealed the hazardous toxicity, persistence, and bioaccumulation of PFAS, and repeatedly misrepresented the safety of PFAS and PFAS-containing materials.

8. Plaintiff wore turnouts and used and/or was exposed to Class B foam in the usual and normal course of performing his firefighting duties and training and was repeatedly exposed to PFAS in his workplace.

9. Plaintiff did not know and, in the exercise of reasonable diligence, could not have known that these products contained PFAS or PFAS-containing materials. He also did not know that PFAS was in his body and blood.

10. At all relevant times and continuing to the present, Defendants have represented that their turnouts and Class B foams are safe.

11. Plaintiff used the turnouts and Class B foam as they were intended and in a foreseeable manner which exposed him to PFAS in the course of his firefighting activities. This repeated and extensive exposure to PFAS resulted in various health issues, including, but not limited to, non-Hodgkin's lymphoma. His PFAS exposures continue to pose a significant threat to his personal and mental health due to PFAS' persistence, pervasiveness, toxicity, and bioaccumulation.

12. Defendants knowingly and willfully manufactured, designed, marketed, sold, and distributed chemicals and/or products containing PFAS for use within the Commonwealth of Massachusetts, and across the Unites States, when they knew or reasonably should have known that Plaintiff would repeatedly inhale, ingest and/or have dermal contact with these harmful compounds during firefighting training exercises and in firefighting emergencies, and that such exposure would threaten the health and welfare of firefighters, such as Plaintiff, exposed to these dangerous and hazardous chemicals.

13. Plaintiff brings this action against Defendants and seeks damages, together with any appropriate injunctive or other equitable relief.

PARTIES

Plaintiff

14. Plaintiff currently resides in Granby, Massachusetts.

15. Plaintiff worked as a firefighter for approximately sixteen to seventeen years. In 2005, Plaintiff began as a firefighter in Granby, where he worked until 2009. In 2009, Plaintiff began work as a firefighter in Northampton, where he worked until 2021. Plaintiff has been

diagnosed with and has been treated for non-Hodgkin's lymphoma, which is believed to either have been caused, or aggravated, as a result of exposure to PFAS.

16. In the course of firefighting training and fire suppression activities, Plaintiff routinely wore turnouts and used and/or had been exposed to class B foam. He wore turnout gear on every shift, during trainings, and during special events throughout his career. During every shift, Plaintiff would wear turnout gear and use or be exposed to class B foam, which was stored in jugs in the station and needed to be routinely checked and tested. Plaintiff routinely used Class B foam in training, including hours of continuous training to use up class B foam that was due to expire.

17. Plaintiff alleges that PFAS or PFAS-containing materials developed, manufactured, marketed distributed, released, sold, and/or used by Defendants in turnouts and/or Class B foam, as herein alleged, caused him to be exposed to PFAS and/or PFAS-containing materials. Such exposure was the proximate cause of the non-Hodgkins' lymphoma with which Plaintiff has been diagnosed.

Defendants

18. Defendant 3M Company (a/k/a Minnesota Mining and Manufacturing Company) ("3M") is a Delaware corporation that does business throughout the United States, including Massachusetts. 3M has its principal place of business in St. Paul, Minnesota. During the relevant time, 3M developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

19. Defendant AGC Chemicals Americas, Inc. ("AGC") is a Delaware corporation that does business throughout the United States, including Massachusetts. AGC has its principal place of business in Exton, Pennsylvania. During the relevant time, AGC developed,

manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

20. Defendant Amerex Corporation, also known as Alabama Amerex Corporation, ("Amerex") is an Alabama corporation that does business throughout the United States, including Massachusetts. Amerex has its principal place of business in Trussville, Alabama. During the relevant time, Amerex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

21. Defendant Archroma U.S., Inc. ("Archroma") is a North Carolina corporation that does business throughout the United States, including Massachusetts. Archroma has its principal place of business in Charlotte, North Carolina. During the relevant time, Archroma developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

22. Defendant Arkema, Inc. ("Arkema") is a Pennsylvania corporation that does business throughout the United States, including Massachusetts. Arkema has its principal place of business in King of Prussia, Pennsylvania. During the relevant time, Arkema developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

23. Defendant Buckeye Fire Equipment ("Buckeye") is a North Carolina corporation that does business throughout the United States, including Massachusetts. Buckeye has its principal place of business in Kings Mountain, North Carolina. During the relevant time, Buckeye developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

24. Defendant Carrier Global Corporation ("Carrier") is a Delaware corporation that does business throughout the United States, including Massachusetts. Carrier has its principal place of business in Palm Beach Gardens, Florida. Carrier is the parent of Kidde-Fenwal, Inc. During the relevant time, Carrier developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

25. Defendant Chemguard, Inc. ("Chemguard") is a Wisconsin corporation that does business throughout the United States, including Massachusetts. Chemguard has its principal place of business in Marinette, Wisconsin. During the relevant time, Chemguard developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

26. Defendant Corteva, Inc. ("Corteva") is a Delaware corporation that does business throughout the United States, including Massachusetts. Corteva has its principal place of business in Indianapolis, Indiana. During the relevant time, Corteva developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

27. Defendant Deepwater Chemicals, Inc. ("Deepwater") is a Delaware corporation that does business throughout the United States, including Massachusetts. Deepwater has its principal place of business in Woodward, Oklahoma. During the relevant time, Deepwater developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

28. Defendant Dynax Corporation ("Dynax") is a Delaware corporation that does business throughout the United States, including Massachusetts. Dynax has its principal place of

business in Elmsford, New York. During the relevant time, Dynax developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

29. Defendant EIDP, Inc, formerly known as E. I. du Pont de Nemours & Co. ("DuPont"), is a Delaware corporation that does business throughout the United States, including Massachusetts. DuPont has its principal place of business in Wilmington, Delaware. During the relevant time, Dupont developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

30. Defendant Du Pont de Nemours Inc. ("DuPont Nemours") is a Delaware corporation that does business throughout the United States, including Massachusetts. DuPont Nemours has its principal place of business in Wilmington, Delaware. During the relevant time, DuPont Nemours developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

31. Defendant Fire-Dex, LLC ("Fire-Dex") is a Delaware limited liability company that does business throughout the United States, including Massachusetts. Fire-Dex has its principal place of business in Medina, Ohio. During the relevant time, Fire-Dex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

32. Defendant Globe Manufacturing Company, LLC ("Globe") is a New Hampshire limited liability company that does business throughout the United States, including Massachusetts. Globe has its principal place of business in Pittsfield, New Hampshire. During the relevant time, Globe developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams,

including in Massachusetts. Defendant Mine Safety Appliance Company, LLC ("MSA") acquired Globe Holding Company, LLC and its subsidiaries (collectively, "MSA/Globe") in 2017 and continues to do business under the Globe name.

33. Defendant Honeywell Safety Products USA, Inc. ("Honeywell") is a Delaware corporation that does business throughout the United States, including Massachusetts. Honeywell has its principal place of business in Charlotte, North Carolina. During the relevant time, Honeywell developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

34. Defendant Johnson Controls, Inc. ("Johnson Controls") is a Delaware corporation that does business throughout the United States, including Massachusetts. Johnson Controls has its principal place of business in Milwaukee, Wisconsin. Johnson Controls is the parent of Defendants Tyco Fire Products, LP ("Tyco") and Chemguard. During the relevant time, Johnson Controls developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

35. Defendant Lion Group, Inc., ("Lion") is an Ohio corporation that does business throughout the United States, including Massachusetts. Lion has its principal place of business in Dayton, Ohio. During the relevant time, Lion developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

36. Defendant MSA is a Pennsylvania limited liability company that does business throughout the United States, including Massachusetts. MSA has its principal place of business in Cranberry Township, Pennsylvania. MSA acquired Globe Holding Company, LLC and its subsidiaries (collectively, "MSA/Globe") in 2017 and continues to do business under the Globe

name. During the relevant time, MSA developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

37. Defendant National Foam, Inc., ("National Foam") is a Pennsylvania corporation that does business throughout the United States, including Massachusetts. National Foam has its principal place of business in West Chester, Pennsylvania. During the relevant time, National Foam developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

38. Defendant PBI Performance Products, Inc., ("PBI") is a Delaware corporation that does business throughout the United States, including Massachusetts. PBI has its principal place of business in Charlotte, North Carolina. During the relevant time, PBI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

39. Defendant Perimeter Solutions, LP, ("Perimeter Solutions") is a Delaware corporation that does business throughout the United States, including Massachusetts. Perimeter Solutions has a principal place of business in Rancho Cucamonga, California. During the relevant time, Perimeter developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

40. Defendant StedFast USA, Inc. ("StedFast") is a Delaware corporation that does business throughout the United States, including Massachusetts. StedFast has its principal place of business in Piney Flats, Tennessee. During the relevant time, StedFast developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

41. Defendant Southern Mills Inc. d/b/a TenCate Protective Fabrics ("Tencate") is a Georgia corporation that does business throughout the United States, including Massachusetts. Tencate has its principal place of business in Union City, Georgia. During the relevant time, Tencate developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

42. Defendant The Chemours Company, L.L.C. ("Chemours") is a Delaware limited liability company that does business throughout the United States, including Massachusetts. Chemours has its principal place of business in Wilmington, Delaware. During the relevant time, Chemours developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

43. Defendant Tyco is a Delaware limited partnership that does business throughout the United States, including Massachusetts. Tyco has its principal place of business in Exeter, New Hampshire. During the relevant time, Tyco developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

44. Defendant W. L. Gore & Associates, Inc., ("Gore") is a Delaware corporation that does business throughout the United States, including Massachusetts. Gore has its principal place of business in Newark, Delaware. During the relevant time, Gore developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams.

45. Plaintiff alleges that each named Defendant is in some manner responsible for the acts alleged herein and that they proximately caused the injuries to Plaintiff, as alleged herein.

46. Plaintiff alleges that each named Defendant derived substantial revenue from the PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams that Defendants designed, developed, manufactured, tested, packaged, promoted, marketed, advertised, distributed, labeled and/or sold within the United States, and that were used by Plaintiff within Massachusetts.

47. Defendants expected or should have expected their acts to have consequences within the Commonwealth of Massachusetts, and derived substantial revenue from interstate commerce.

48. Defendants purposefully availed themselves of the privilege of conducting activities within the Commonwealth of Massachusetts, thus invoking the benefits and protections of its laws.

JURISDICTION AND VENUE

49. This Court has jurisdiction over this action under 28 U.S.C. § 1332(a) and 1332(c)(1) in that there is complete diversity between Plaintiff and all Defendants and the amount in controversy exceeds $75,000, exclusive of interest and costs.

50. Venue is proper in this district pursuant to 28 U.S.C. § 1391(b)(2) as a substantial part of the events or omissions alleged in this complaint occurred in this district.

GENERAL ALLEGATIONS

A. Plaintiff's Use of and Exposure to PFAS-Containing Products

51. Plaintiff is a retired volunteer firefighter of approximately sixteen to seventeen years, who worked for the Granby Fire Department from 2005 to 2009 and for the Northampton Fire Department from 2009 to 2021.

52. He trained in turnout gear and used firefighting foam. Plaintiff wore turnout gear every shift, during training, and during special events. Plaintiff used Class B foam for hours in training, checked foam equipment and storage on every shift, and used Class B foam to extinguish fires.

53. To prepare for his work as a firefighter, Plaintiff wore turnouts and received extensive and ongoing training in fire suppression (including the preparation, handling and use of Class B foam).

54. For decades, Defendants, either individually or through their predecessors or subsidiaries, have manufactured, designed, sold, supplied, and distributed chemical feedstock and/or turnouts and Class B foam containing PFAS to firefighting training facilities and fire departments globally, including within the Commonwealth of Massachusetts, specifically in Granby and Northampton.

(1) PFAS-Containing Turnout Gear

55. During firefighting training and when responding to fires and performing fire extinguishment, firefighters wear turnouts that are intended to provide a degree of thermal, chemical, and biological protection for a firefighter. Turnout gear components include individual components such as a helmet, hood, jacket, pants and suspenders, boots, and gloves. Each component of the jacket and pants are made of an outer layer, as well as several inner layers that include a moisture barrier and thermal liner that are meant to protect the firefighter from ambient heat.

56. PFAS chemicals are used in turnout gear to impart heat, water, and stain resistance to the outer shell and moisture barrier of turnout gear.

57. A June 2020 study of turnout gear by researchers at the University of Notre Dame analyzed 30 new and used turnout jackets and pants originally marketed, distributed and sold in 2008, 2014, and 2017, by six turnout gear makers, including Defendants MSA/Globe, Lion, and Honeywell and found high levels of PFAS in turnout gear worn, used, or handled by firefighters.

58. When exposed to heat, PFAS chemicals in the turnouts off-gas, break down, and degrade into highly mobile and toxic particles and dust, exposing firefighters to PFAS chemicals, particles and dust, including through skin contact/absorption, ingestion (e.g., hand-to-mouth contact) and/or inhalation. Further firefighter exposure to these highly mobile and toxic materials occurs through normal workplace activities because particles or dust from their turnouts spread to fire vehicles and fire stations, as well as firefighters' personal vehicles and homes.

59. Such workplace exposure to PFAS and PFAS-containing materials has been found to be toxic to humans. As far back as a July 31, 1980 internal memo, DuPont officials described measures that were needed to prevent workplace exposure to perfluorooctanoic acid ("PFOA"), a member of the PFAS group of chemicals, which they knew could permeate all protective materials, and noted that PFOA's toxicity varied depending on the exposure pathway, acknowledging that ingestion was "slightly toxic," dermal contact was "slightly to moderately toxic" and inhalation was "highly toxic." The memo concluded "continued exposure is not tolerable."

60. As alleged herein, Plaintiff wore turnouts in the ordinary course of performing his duties, as turnouts were intended to be used in a foreseeable manner, which exposed him to significant levels of PFAS.

61. Plaintiff did not know, and in the exercise of reasonable diligence could not have known, that the turnouts he wore or used in the course of performing his duties contained PFAS

or PFAS-containing materials, and similarly did not know and could not have known that he routinely suffered exposure to PFAS or PFAS-containing materials in the turnouts he wore or used in performing his duties. The turnout gear worn or used by Plaintiff did not contain labelling information saying that the gear contains PFAS, and similarly did not warn Plaintiff of the health risks associated with exposure to PFAS.

(2) PFAS-Containing Class B Foam

62. Class B foam is one of the primary tools firefighters use to suppress fires and is particularly effective for extinguishing fires involving oil and/or chemicals common at transportation accidents, aircraft accidents, and chemical spills. Class B foam is used in structural or other types of non-chemical fires when water cannot penetrate the structure enough to ensure that unseen fire is extinguished. The most common non-military Class B foam is aqueous film-forming foam ("AFFF"). AFFF and other Class B foams contain PFAS.

63. To use Class B foam, a Class B Foam concentrate must first be mixed with water.

64. Class B foam concentrate is typically sold in five-gallon containers that firefighters are responsible for storing in the fire engine and/or pouring into the foam bladder of the fire engine. To mix the foam concentrate and water from a fire engine that is not pre-plumbed for foam, an educator must be placed in the foam to draw up the concentrate and mix it with water to create a thick foamy substance. Firefighters are responsible for preparing the foam, applying foam, and cleaning the equipment (hoses, nozzles, etc.) after use.

65. The process described above causes exposure to PFAS through skin contact, inhalation or ingestion (e.g., hand-to-mouth contact). The Class B foam containers used by Plaintiff and the fire departments by which he was employed to mix and prepare the Class B

foam for use did not warn that the foam contains PFAS and did not warn the Plaintiff of the serious risks associated with exposure to PFAS.

66. Class B foam is used in fire extinguishment in a manner typical of routine methods of fire extinguishment – by being sprayed through a fire hose, appliance, or nozzle.

67. The techniques used for "laying a blanket" of Class B foam in fire extinguishment include banking foam off a wall or vertical surface to agitate the foam before it covers the fire; or applying it to the ground surface where the fire is burning. In structure fires, it can also be necessary to spray the ceilings, walls, and floors. Reapplication of foam is often necessary because the foam blanket will break down over a short time.

68. These techniques are used routinely in firefighting training as well as in real-world fire extinguishment, and results in firefighters being sprayed or entirely soaked in Class B foam, walking in and through class B foam (which can reach thigh – or even waist-high), or kneeling in Class B foam during use. As a result, standard firefighting techniques cause exposure to PFAS through skin contact, inhalation, or ingestion (e.g., hand-to-mouth contact).

69. As alleged herein, Plaintiff used and/or was exposed to Class B foam in the ordinary course of performing his duties. In performing his duties, Plaintiff used Class B foam in the manner in which it was intended to be used and in a foreseeable manner which exposed him to significant levels of PFAS.

70. Plaintiff did not know, and in the exercise of reasonable diligence, could not have known that the Class B foam he used and/or was exposed to in the course of performing his duties contained PFAS or PFAS-containing materials, and similarly did not know and could not have known that he routinely suffered exposure to PFAS or PFAS-containing materials in the Class B foam he used and/or was exposed to in performing his duties.

71. These exposures to PFAS or PFAS containing materials resulted in Plaintiff suffering serious and life-threatening diseases and continue to pose a significant health threat to him given the bioaccumulation, pervasiveness, and persistence of PFAS.

B. The Chemical Structure of PFAS Makes Them Harmful to Human Health

72. PFAS are known as "forever chemicals" because they are highly resistant to degradation, bio-accumulate in individual organisms and humans, and increase in concentration up the food chain. Indeed, scientists are unable to estimate an environmental half-life for PFAS. Additionally, some PFAS chemicals (known as "precursors") degrade into different long-chain PFAS chemicals.

73. PFAS are nearly indestructible and are highly transportable. PFAS exposure to humans can occur through inhalation, ingestion, or dermal contact.

74. PFAS chemicals include "older" long-chain PFAS like PFOA, PFOS, and PFNA that have seven or more carbon atoms, and "newer" short-chain PFAS, like PFBA, PFBS, PFHxA, and PFHxS. The PFAS chemical industry has repeatedly asserted that short-chain PFAS are safer and bio-degrade more easily than long-chain PFAS. However, short-chain PFAS are molecularly similar to long-chain PFAS, and recent scientific research shows that short-chain PFAS are in fact extremely persistent, highly mobile and transportable, almost impossible to remove from water, bio-accumulate in humans and the environment, and show similar toxicity as long-chain PFAS. Short-chain PFAS have lower technical performance and may therefore be used at higher quantities, cancelling out any supposed benefits of lower bioaccumulation potential.

75. In October 2021, the U.S. Environmental Protection Agency ("EPA") updated its 2018 assessment of short-chain PFAS, also known as "GenX," finding that two of the Defendant

Chemours GenX chemicals are ***more toxic*** than PFOA – the highly toxic chemical they were intended to replace.

76. In December 2022, in response to the alarming research on the dangers of these substances, Congress enacted the Protecting Firefighters from Adverse Substances Act (PFAS Act), which directs federal agencies to develop best practices, training, and educational programs to reduce, limit, and prevent exposure to PFAS. The PFAS Act would include information for federal, state, and local firefighters on training and best practices to prevent and reduce exposure to PFAS from firefighting foams and protective gear, as well as resources that identify alternatives for firefighting tools and equipment that do not contain PFAS.

77. On March 14, 2023, the EPA put forth their proposal to establish legally enforceable levels for PFAS known to occur in drinking water. The proposed regulation includes maximum contaminant levels (MCLs) which, if finalized, are legally enforceable regulatory drinking water standards. EPA establishes MCLs as close as feasible to the health based, non-enforceable, Maximum Contaminant Level Goal (MCLG), taking into consideration the ability to measure and treat to remove a contaminant, as well as the costs and benefits of removing the contaminant. The EPA proposes to set the MCLG at **zero** for PFOS and PFOA.

78. In addition to announcing proposed MCLs, the EPA enclosed an updated EPA FAQ sheet, which makes clear that it is the EPA's current position that there is no safe level for PFOA and/or PFOS in drinking water. The EPA ***determined PFOA and PFOS are likely carcinogens*** (i.e., cancer causing) and that ***there is no level of these contaminants that is without a risk of adverse health effects.***

79. To date, there is no safe, acceptable, or "normal" level of PFAS in the human body. Further, the fact that PFOA, PFOS, PFHxS, PFHpA, and PFNA are often found together

presents a substantial risk to human health. Defendants' assertion that their products are safe because they do not contain PFOA or PFOS, or because they contain short-chain PFAS is just another example of their efforts to deflect from the reality that there are thousands of PFAS – including precursor PFAS which degrade into PFOA and PFOS.

C. Defendants Knowingly Manufactured, Developed, Marketed, Distributed, Supplied and/or Sold Toxic PFAS and/or Products Containing PFAS.

80. Defendants have each marketed, developed, distributed, sold, promoted, manufactured, released, or otherwise used PFAS chemicals in products, including PFAS containing turnout gear and Class B foam, throughout the United States and in Massachusetts.

81. PFAS were first developed in the 1930s and 1940s. Soon after, 3M began manufacturing a PFAS material called PFOA, selling it to other companies, including DuPont.

82. By the 1950s, PFAS were widely used in large-scale manufacturing. Prior to this, PFAS had never been detected nor were present in human blood or bodies.

83. In the 1960s, Class B foam containing PFAS entered the global market and became the primary firefighting foam all over the world with 3M as one of the largest manufacturers.

84. In the 1970s, Defendant National Foam and Tyco began to manufacture, market, and sell Class B foam containing PFAS, followed by Defendant Chemguard in the 1990s, and Defendant Buckeye in the 2000s.

85. Founded in 1918, Defendant MSA/Globe began manufacturing, marketing, and selling turnout gear with DuPont's NOMEX ® PFAS-containing flame resistant fabric in 1966. MSA/Globe (under the Globe name) continues to manufacture, market, and sell turnout gear using PFAS containing fabrics supplied by its partners, DuPont, Gore, Tencate, and PBI.

86. Defendant Lion began to manufacture, market, and sell turnout gear in 1970. Since its founding, and continuing through the present, Lion makes, markets, and sells turnout gear using PFAS-containing fabrics, including Teflon® F-PPE-treated thermal lining supplied by DuPont's NOMEX® PFAS-containing flame/water/oil-resistant fabric, and moisture barrier fabrics supplied by Defendant Gore.

87. Defendant Honeywell acquired Norcross Safety Products LLC in 2008, entering the protective gear industry and becoming one of the leading manufacturers of turnouts. Honeywell makes, markets, and sells turnout gear using PFAS-containing fabrics, supplied by Defendants DuPont, Fire-Dex, Gore, PBI, StedFast, and Tencate.

D. Defendants Know Exposure to PFAS Causes Serious Health Impacts

88. Defendants have long known about the serious and significant impacts to health caused by exposure to PFAS, having conducted study after study on the exposure and health effects of PFAS on animals, and in some cases, even on their own employees. The findings in these studies were discussed within the companies internally yet were never made public or shared with any regulatory agencies.

89. Between 1950 and 2000, numerous studies, including many conducted by Defendants, showed that exposure to PFAS and PFOA could lead to adverse health outcomes in humans and animals.

90. For example, in 1981, 3M, which still supplied PFOA to DuPont and other corporations, found that ingestion of PFOA caused birth defects in rats. 3M reported this information to DuPont. DuPont then tested the children of pregnant employees in their Teflon division and found that of seven births, two children had eye defects. Defendants reassigned female employees, but did not inform the EPA or make this information public.

91. Additionally, approximately fifty years of studies by Defendants, including 3M and DuPont, on human exposure to PFAS found unacceptable levels of toxicity and bioaccumulation, as well as a link to increased incidence of liver damage, various cancers, and birth defects in humans exposed to PFAS. These studies also revealed that, once in the body, PFAS has a very long half-life and that it takes years before even one-half of the chemicals begin to be eliminated from the body – assuming, of course, the body experiences no additional PFAS exposure.

92. In the face of these findings, despite passage of the Toxic Substances Control Act in 1976, which requires companies that manufacture, process or distribute chemicals to immediately report to EPA information that "reasonably supports the conclusion" that a chemical presents a substantial risk to health or the environment, Defendants did not inform the EPA, Plaintiff, or the public about the health impacts resulting from exposure to PFAS. Indeed, in at least some instances, Defendants' own attorneys advised the companies to conceal their damaging findings on PFAS, which they did for decades.

93. In 2000, 3M announced that it would cease manufacturing a specific PFAS chemical, PFOS, as well as Class B foam, on the same day the EPA announced that PFOA and PFOS, two chemicals in the PFAS family, had a "strong tendency to accumulate in human and animal tissues and could potentially pose a risk to human health and the environment over the long term."

94. However, 3M did not recall PFOS, its chemical feedstock, or any Class B foam that it had previously manufactured, sold, or distributed, or that was then stored at firehouses and being used by firefighters around the country. And no other Defendant stopped manufacturing PFAS chemicals or products containing PFAS. Rather, Defendants continued to manufacture,

develop, market, promote, distribute, and sell PFAS chemicals and PFAS-containing products, including specifically PFAS-containing turnouts and Class B foams and did so without any warning to firefighters or to the public concerning the fact that these turnouts and foams contained PFAS, or that they posed a serious risk to human health. Defendants instead continued to claim that their products were safe.

95. By the 2000s, Defendants own research of its employees revealed multiple adverse health effects among workers who had been exposed to PFAS, including increased cancer incidence, hormone changes, lipid changes, and thyroid and liver impacts.

96. In 2001, a class action lawsuit filed in West Virginia against DuPont on behalf of people whose water had been contaminated by the nearby DuPont chemical plant where PFAS chemicals were manufactured.

97. Defendants continued to manufacture, market, promote, distribute, and/or sell PFAS and PFAS-containing products, including turnouts and Class B foam, and continued to publicly claim that these products are safe. Defendants affirmatively suppressed independent research on PFAS, and instead commissioned research and white papers to support their claims that PFAS and PFAS-containing products were safe to use, engaging consultants to further this strategy and ensure that they would continue to profit from these toxic chemicals and products.

98. As one consultant wrote in pitching its services to DuPont, it was critical that the PFAS industry develop an aggressive strategy to "[discourage] governmental agencies, the plaintiff's bar and misguided environmental groups" and "[implement] a strategy to limit the effect of litigation and regulation on the revenue stream generated by PFOA." The strategy was further described by the consultant as follows:

> DUPONT MUST SHAPE THE DEBATE AT ALL LEVELS…. The outcome of this process will result in the preparation of a multifaceted plan to take control of the ongoing

> risk assessment by the EPA, looming regulatory challenges, likely litigation, and almost certain medical monitoring hurdles. The primary focus of this endeavor is to strive to create the climate and conditions that will obviate, or at the very least, minimize ongoing litigation and contemplated regulation relating to PFOA. ***This would include facilitating the publication of papers and articles dispelling the alleged nexus between PFOA and teratogenicity as well as other claimed harm.*** We would also lay the foundation for creating Daubert precedent to discourage additional lawsuits.

99. Class B foam manufacturers and distributors adopted a similarly aggressive industry campaign to evade government oversight or public attention to risks posed by their products. At a March 2001 meeting of the National Fire Protection Association's Technical Meeting on Foam, which included Defendant Class B foam manufacturers Tyco, Chemguard and National Foam, a 3M representative informed attendees that 3M had discontinued its Class B foam business, citing concerns about the "proven pervasiveness, persistence and toxicity" of PFOS. Attendees were also informed of evidence that telomer-based fluorosurfactants (used by every Class B foam manufacture except 3M) degrade to PFOA and, worse, exhibit an even greater degree of pervasiveness and toxicity than PFOA.

100. At or around the same time, certain Defendants, including at least Tyco, DuPont, and Buckeye, founded and/or became members of the Fire Fighting Foam Coalition ("FFFC") – a non-profit organization of manufacturers, distributors, and suppliers of Class B foam (specifically AFFF). The FFFC's self-described role was to be "the environmental voice for users and manufacturers of AFFF" – one designed to ignore the health impacts of exposure to PFAS containing Class B foams such as AFFF:

> Not too long ago, 3M had environmental concerns about a chemical in their product and decided to withdraw from the AFFF market. Even though no other manufacturers used the questionable chemical, the withdrawal of 3M from AFFF production raised a red flag. As a direct result, a lot of half-truths and misinformation published by some well-meaning, but misinformed, groups began to surface. One organization went so far as to label our products as "hazardous waste" and as posing an "occupational health or environmental hazard." At the same time, the Federal government was focusing its

> attention on the industry and needed to identify an industry representative that we could provide fact-based information and serve as a focal point for dialogue. We decided, therefore, to form the FFFC in order to educate, inform and help persuade regulatory and legislative decision-makers that firefighting foams are a value-added component to any firefighting capability.

101. Defendants also pivoted with a new industry strategy. Defendants continued to produce Class B foams containing PFAS and continued to publicly represent that PFAS and/or products containing PFAS were safe, while developing newer, "short-chain" PFAS alternatives.

102. In 2005, the EPA fined DuPont $16.5 million for failing to submit decades of toxicity studies of PFOA (one PFAS chemical manufactured by the company). In the face of and undeterred by the EPA's action, Defendant turnout manufacturers, such as MSA/Globe and Lion, partnered with DuPont and with Defendant Gore to develop, manufacture, market, distribute, and/or sell turnouts made with DuPont's and/or Gore's PFAS-based textile coatings (e.g., Nomex® and Gore® Protective Fabrics).

103. In 2006, the EPA "invited" eight PFOA manufacturers, including Defendants DuPont, 3M, and Arkema to join in a "Global Stewardship Program" and phase out production of PFOA by 2015.

104. By this time, Defendants had begun to aggressively manufacture, market, sell, and/or distribute short-chain PFAS, such as Gen X, claiming that these alternative PFAS chemicals did not pose significant health risks to humans or the environment. But, these claims, too, were false. Defendants knew that certain of these short-chain PFAS chemicals had been found in human blood, and that at least one of them produces the same types of cancerous tumors (testicular, liver, and pancreatic) in rats as had been found in long-chain PFAS studies.

105. In 2011, a C8 Science Panel convened as part of a settlement in a West Virginia DuPont water contamination case began releasing its findings. The Panel had analyzed the blood

serum of nearly 70,000 residents living in the water contamination area for two long-chain PFAS (PFOA and PFOS), and found significant negative human health effects (including, kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, high cholesterol, and preeclampsia) associated with exposure to these PFAS chemicals in the area groundwater.

106. In 2013, DuPont entered an agreement with the EPA and ceased production and use of PFOA – just one of thousands of PFAS chemicals the company makes, promotes, and sells. Defendants, however, continued manufacturing short-chain PFAS materials, chemical feedstock, and products – all the while peddling them as safer, and more easily bio-degraded than long-chain PFAS, despite evidence to the contrary.

107. In 2015, DuPont spun-off its PFAS chemicals business, as well as two-thirds of its environmental liabilities and 90% of its active litigation, to Defendant Chemours. As part of the transaction, DuPont required Chemours to indemnify the "new" DuPont for all assigned environmental liabilities should a regulatory agency or plaintiff seek to hold the "new" DuPont accountable. As Chemours President Paul Kirsch testified before Congress: "DuPont designed the separation of Chemours to create a company where it could dump its liabilities to protect itself from environmental cleanup and related responsibilities.

108. In June 2018, the Agency for Toxic Substances and Disease Registry (ATSDR), a division of the Centers for Disease Control and Prevention at the US Department of Health and Human Services released an 852-page draft toxicology report analyzing scientific data about the most common PFAS chemical variants, finding that PFAS "are potentially more hazardous than previously known, are particularly concerning because of these compounds' persistence in the environment and widespread prevalence – PFAS are extremely slow to biodegrade."

109. In September 2019, DuPont chief operations and engineering officer Daryl Roberts testified before Congress that the "new DuPont" (to be distinguished from the "old DuPont" which manufactured and sold PFAS for decades before being spin-off to Chemours) no longer uses or manufactures PFAS and is no longer responsible for obligations and harms resulting from over 65 years of producing PFAS. Roberts remarked that he knew nothing about "old DuPont's" efforts to suppress research on PFAS toxicity – as testified to by one of DuPont's former scientists only a few days earlier. Finally, he stated that any liabilities from "old DuPont's" PFAS operations were now Chemours' problem because DuPont is essentially a completely new company with no past – only a bright future of doing good in the world.

E. Defendants Failed to Warn Plaintiff of the Dangers of Exposure to PFAS and Falsely Represented That Their PFAS Products Were Safe.

110. Despite Defendants' knowledge that PFAS were persistent, toxic, and bioaccumulating with a very long half-life and that exposure to PFAS can cause serious life-threatening diseases, including cancer, Defendants ***did not warn*** Plaintiff that PFAS and Defendants' PFAS containing products, including turnouts and/or Class B foams used by Plaintiff, contained PFAS, or that exposure to PFAS in the normal and intended use of such products, causes serious bodily harm and illness, including cancer.

111. Instead, Defendants falsely represented – and continue to falsely represent – that PFAS and PFAS-containing products, including turnouts and Class B foams, are safe.

(1) Defendants Provide No Safety Warnings on Product Labels

112. Plaintiff alleges that the packaging on the PFAS-containing Class B foam containers used for mixing Class B foam with water, and for spraying and laying foam blankets for fire suppression or fire suppression training, contained no warning that the Class B foam

contained PFAS, or that using Class B foam as it was intended to be used could lead to exposure to PFAS and serious bodily harm.

113. Plaintiff further alleges that turnouts containing PFAS or PFAS materials sold by Defendants, and used by Plaintiff in training, emergency incidents, or in fire suppression, also had no warning that the turnouts contained PFAS or PFAS materials or that using turnouts could lead to exposure to PFAS and serious bodily harm.

(2) Defendants' MSDS Sheets Do Not Warn About PFAS or PFAS Exposure

114. A Material Safety Data Sheet (or "MSDS") is a document that the Occupational Safety and Health Administration ("OSHA") requires companies to provide end users for products that contain substances or chemicals that are classified as hazardous or dangerous. Access to such information is necessary for Plaintiff to provide a safe and effective response in emergency situations.

115. The MSDS provided with Defendants' Class B foam did not – and to this day do not – state that these foams contain PFAS or PFAS-containing materials; that PFAS is persistent, toxic and bio-accumulating; or that PFAS exposure causes serious bodily harm. To the contrary, the MSDS falsely stated that the Class B foams and/or their contents were ***not*** known carcinogens and did not cause birth defects.

116. Even now, the MSDS do not reflect the known serious health risks and hazards associated with exposure to PFAS in these Class B foams. For example, an MSDS updated on as recently as May 19, 2021 by Defendant National Foam for AFFF stated that the product ***was not considered carcinogenic*** – contrary to decades of science.

(3) Defendants' Fraudulent Concealment and Misrepresentations About PFAS Continued to this Day

117. Despite their decades of knowledge about PFAS and its dangers, Defendants continue to make false claims, continue to misrepresent the safety of PFAS, and continue to minimize and fail to warn about the hazards of exposure to PFAS, or turnouts and Class B foams made with or containing PFAS.

118. As alleged above, Defendants' misinformation campaign is long-standing, and continues to this day and includes acts such as publishing misleading articles from paid consultants in industry publications and creating and/or sponsoring industry groups to propound Defendants' false narrative regarding the safety of PFAS and PFAS-containing materials.

119. As frequent sponsors and advertisers in fire service publications, Defendants have been so influential in the industry that fire service leadership has echoed these narratives.

120. Also, in January 2021, Defendants DuPont and Chemours along with Corteva (the agricultural unit of DuPont that it spun off in 2019) announced a cost-sharing agreement worth $4 billion to settle lawsuits involving historic use of PFAS – thereby acknowledging, at long last, the significant harm their PFAS chemicals have caused to human health and the environment.

F. New Research Indicates That Firefighters are at Significant Risk of harm From Exposure to PFAS in Turnouts and Class B Foams – But Defendants Continue to Discount or Deny These Risks

121. While historical research (and follow-on litigation) has centered on environmental impacts and environmental exposures associated with PFAS and PFAS-containing products, recent studies have focused specifically on the serious health impacts to firefighters stemming from their occupational exposure to turnouts and Class B containing PFAS.

122. In October 2019, for example, an expert panel of the International Pollutants Elimination Network (IPEN), an international non-profit organization comprised of over 600 public interest non-governmental organizations dedicated to improving global chemical waste

policies, published a scientific paper that, in the words of its authors, "presents unequivocal evidence from recent studies that firefighters" using Class B foams (primarily AFFF) "have unexpectedly elevated blood levels" of PFAS, including, specifically, PFHxS and PFOS, with PFHxS (a short-chain, C6 PFAS) being "potentially of greater concern than PFOS given its much longer elimination half-life in humans." The paper explains that "[f]irefighters can be significantly exposed to PFHxS and other PFAS from firefighting via various occupational mechanisms including direct exposure during use as well as exposure from contaminated personal equipment (PPE), handling of contaminated equipment, managing PFAS foam wastes, occupational contaminated fire stations and consumption of contaminated local water and produce. Cross-contamination and legacy PFAS residues from inadequately decontaminated appliances after transitioning to fluorine-free foam can remain a long-term problem." The panel concluded that "[o]ngoing exposure to PFHxS, PFOS and other PFAS amongst firefighters remains a major occupational health issue," noting that "[b]io-accumulation and very slow bioelimination may be very significant influencing factors in PFHxS exposure" in firefighters. "Of greater concern," the panel observed, "is that firefighter blood levels for PFOS and PFHxS are many times higher than the median values for the general…population."

123. In June 2020, scientists at the University of Notre Dame published a groundbreaking study on PFAS in turnout gear, and the exposure risks posed to firefighters that wear, wore, or handle such gear ("Notre Dame Turnout Study"). The Notre Dame Turnout Study analyzed over 30 sets of used and unused (still in their original packaging) turnout gear made by six U.S. manufacturers, including Defendants MSA/Globe, Lion and Honeywell, over several production years.

124. The Notre Dame Turnout Study noted that these manufacturers' turnout gear (or personal protective equipment-PPE, as it is described in the study) are manufactured "from textiles that are made from Fluoropolymers (one form of PFAS) or extensively treated by PFAS in the form of side-chain fluoropolymers." According to the researchers, "[t]hese PFAS include fluoropolymer materials such as PTFE used as a moisture barrier in the inner layers of turnout gear." The study found significant levels of PFAS chemicals – including PFOA, PFOS, PFBA, PFPeA, PFHxA, PFHpA, PFNA, PFDA, PFUnA, PFDoA, PFTrDA, PFToDA, PFBS, PFOSA, NEtFOSA, MeFOSAA, N-MeFOSE, N-EtFOSE, and 6:20FTS – in both new and used turnout gear, and across layers, portions, and materials in the turnout gear, including in material layers that are not intentionally treated with PFAS by the manufacturer, thereby providing "the first evidence that suggests PFAS appear to migrate from the highly fluorinated and collect in the untreated layer of clothing work against the skin."

125. These findings suggest that, as garments are worn, PFAS from the outer shell and the moisture barrier can migrate from the turnouts and contaminate the firefighter, their apparatus, and the workplace with PFAS. The analysis also indicated that fluoropolymers from the outer layer decompose into other PFAS, including PFOA.

126. "Startingly," researchers reported, "garment to hand transfer of total fluorine in the ppm range was also observed when researchers simply manipulated the textiles in [the] laboratory." The accumulation of PFAS on researchers' hands strongly suggests that transference of ppm levels of PFAS can occur merely by handling the turnouts and that PFAS exposure pathways include inhalation, ingestion, and/or absorption (through dermal contact) – all of which DuPont internally acknowledged as being toxic in 1980. Lead researcher Dr. Graham Peaslee commented that turnouts are "the most highly fluorinated textiles I've ever seen" and that the

level of PFAS in turnout gear means firefighters are "swimming in a sea of [PFAS]. Those numbers for scientists are scarily high…"

127. Despite these findings, Defendants have been quick to mischaracterize, dismiss or downplay the significance of the Notre Dame Turnout Study.

128. Defendants MSA/Globe, when contacted about the study asked whether Globe planned to study this issue and find an alternative to PFAS for turnouts, merely responded thusly: "[P]rotecting (firefighters) is Globe's business; every piece of our turnout gear meets or exceeds applicable industry standards."

129. Defendant Lion has also dismissed or minimized the significance of the Notre Dame Turnout Study's findings. Lion issued a Customer Safety Alert for PFOA and Turnout Gear stating: "Your Lion turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to wear and properly care for their gear to stay safe on the job."

130. The Customer Safety Alert goes on to stress that Lion does not use PFOA or PFOS (two long-chain PFAS chemicals) in its turnouts. It does not, however, address that Lion's turnouts in fact contain other PFAS chemicals, nor warn firefighters or the public about health harms associated with exposure to these toxic, bio-accumulating chemicals.

131. Defendant Lion's paid consultant, Paul Chrostowski, also has taken aim at the Notre Dame Turnout Study and its findings. Refuting a *Fire Rescue* magazine article about the study, Chrostowski repeated Lion's website statement that "PFOA was never part of the gear itself and frequent independent testing has found only trace amounts of it in any of the gear – not nearly enough to cause concern, and in amounts similar to consumer products." Chrostowski went on to say, "[t]he fact is that one may find trace amounts of 'short-chain' PFAS such as

PFBS and PFHxA in firefighting textiles, but the scientific research shows that these materials are far less toxic than even PFOA and at the tiny trace levels the risks are extremely low based on numerous credible published scientific research papers." Finally, as mentioned above, Chrostowski falsely stated that the link between PFAS exposure and cancer is "extremely weak."

132. And yet, Lion has admitted publicly that dermal absorption is a pathway of exposure to cancer-causing chemicals for firefighters. In Lion's *Not in Our House* cancer awareness fact sheet that currently appears on the company's website, Lion warns firefighters: "For every 5 degrees increase in temperature, skin becomes 400% more absorbent. The hotter you are, the more carcinogens your skin absorbs. This statistic is alarming given that the core body temperatures of firefighters routinely increases during firefighting activities while wearing turnouts which contain known carcinogens."

133. On September 26, 2022, the International Agency for Research for Cancer ("IARC"), the specialized agency of the World Health Organization, announced that it would be having a meeting on PFOA and PFOS from November 7-November 14, 2023.

134. In effect, the IARC nominated PFOA and PFOS for review and publishing in the IARC Monographs. The expectation of the meeting is to reach an industry-wide consensus on the strength of evidence available to classify those agents as carcinogenic.

135. Likewise, Defendant Honeywell stated: "The skin on the neck is very thin and prone to absorbing carcinogenic particulates."

136. Another recent Harvard study examining PFAS levels in fire stations' dust found that "dust in turnout gear locker areas and adjoining apparatus bays had significantly higher fluorine concentrations compared to living rooms in fire stations," as well as fluorine concentrations typically found in Class B foam and/or textiles as opposed to consumer products.

137. For years, the International Association of Firefighters ("IAFF") has held a yearly cancer summit and until 2021, had done little to address PFAS turnouts. Defendants, including at least DuPont, MSA/Globe, Gore, and Lion, have been regular sponsors of the IAFF cancer summit.

G. It was Technologically and Economically Feasible for Defendants to Design Safer Firefighting Foams and Turnouts

138. Defendants have long known that safer, reasonable, alternative designs existed and could be utilized. These designs are and were not only technologically feasible, but also economically. Indeed, given the enormous cost of remediation of the environment and litigation, not to mention the cost to human lives, these safe, feasible alternatives would have cost significantly less.

139. In the early 2000s, 3M, in conjunction with Solberg Scandinavian AS developed Re-Healing Foam ("RF"), a high-performance, AFFF-comparable product that contained no fluorochemicals, and resulted in two patents and three commercial products of PFAS-free firefighting foam. RF met the standard of "ICAO [International Civil Aviation Organization] Level B and matched AFFF in performance including a US Mil-Spec product." In 2007, Solberg bought 3M's patent rights to RF and continued to market, and sell RF. In 2011, Defendant Amerex acquired Solberg and continued to manufacture, market and sell RF. In 2014, the EPA presented Solberg with the Presidential Green Chemistry Award for its fluorine-free foam; the award recognizes technologies that prevent pollution and match or improve the performance of existing products. In 2018, Defendant Perimeter Solutions acquired Solberg and continued to manufacture, market, and sell RF.

140. Also, beginning in the early 2000s, BIOEX launched a highly effective, fluorine free Class B F3 foam which has been approved and used by international airports, fire

departments, oil and gas companies, the maritime industry, pharmaceutical, and chemical companies around the world.

141. However, lobbyists and companies invested in maintaining profits on fluorinated Class B foam not only continue to represent that PFAS-containing foam was safe, but also intentionally maligned the fluorine free foams, falsely asserting that these foams were less effective and more expensive. As noted by IPEN:

> Over the years since the serious introduction on the market of Class B Fluorine-free F3 foams suitable for hydrocarbon and polar solvent fires: there have been many attempts by the fluorochemical side of the industry and their lobbyists trade associations to undermine and downplay the operational performance of Class B fluorine-free foams whilst minimizing the environmental issues associated with fluorinated products. This has included publishing in the technical trade literature spurious performance tests carried out by non-independent or certified bodies funded by competitors to F3 producing companies, as well as continually perpetuating unsupported myths. It is these myths in particular that must be controverted for what they are: marketing hype, misrepresentation of test conditions, frank untruths or only partial truths, criticism of a competitor's product, and an exhibition of vested interests.

142. In 2011, the Fire Fighting Foam Coalition, which includes Defendants Tyco, DuPont, and Buckeye, misrepresented a U.S. Navy report comparing Solberg's fluorine free RF with Defendant National Foam's 6-Em AFFF and Defendant Buckeye's FC-3MS AFFF, asserting Solberg's RF was less effective. In fact, though Solberg's RF ***was not made per military specifications*** as it did not include fluorine, the U.S. Navy Report found:

> For its iso-octane, the non-fluorinated foam had shorter extinguishment times than the two AFFFs and was the only foam to achieve an extinguishment time under 30 seconds…. The non-fluorinated foam has substantially better performance on iso-octane than any of the other fuels.
>
> Conclusions: For the AFFF foams which were intended to work via formation of an aqueous film, for extinction times were lengthened considerably in cases where film formation was made difficult by the low surface tension of the fuel. ***For the non-filming fluorine-free foam, however, no such performance decrement was observed, and the fire extinction times on the lowest surface tension fuel were lower than for fuels with higher surface tensions, and within the 30 second time limit specified (on gasoline) by MIL-F24385F.***

143. Further, the study found that AFFF foams had a 25% drain time (between 4-6 minutes), whereas fluorine-free RF's drain time was 12 minutes. This slower drain time leads to greater burn back resistance and greater safety for firefighters.

144. The technology to develop safer, effective, and economical fluorine-free Class B foam is and has been available for, at least, over 20 years. In fact, many firefighting foam manufacturers and distributors manufacture, market, and/or sell fluorine-free firefighting foams, including Defendants Tyco, Perimeter Solutions, Chemguard, Johnson Controls, and National Foam.

145. EUROFEU, an umbrella organization representing fire protection trade associations and companies including Defendant Tyco, even stated in 2019: "We believe that [fluorine-free foams] are very suitable for a growing number of applications such as municipal firefighting, training, some testing, and as foam agents in first responding fire trucks."

146. LAST FIRE, a consortium of international oil companies developing best industry practice in storage tank Fire Hazard Management including Shell Oil, Chevron, BP, Exxon, and Defendant Perimeter Solutions, concluded after conducting 200 tests that: "Fluorine free foams can provide equivalent performance to C6 foams [AFFF] and provide appropriate performance for hydrocarbon [fires]."

147. Safe fluorine-free turnout gear was and is also technologically and economically feasible.

148. Defendant Fire-Dex manufactures, markets, and sells an entire line of PFAS-free turnouts, as well as non-fluorinated fabrics from Safety Components with a PFAS-free water-repellent. "Made with the same fabric as our traditional TECGEN71 outer shell, this Case material is designed to reduce heat stress while offering the same performance levels in TPP,

breathability, and over reduction of composite weight." Further, because of the increased breathability and thermal protection, the PFAS-free gear is the only outer shell that can currently be paired with the lightest and thinnest dermal liners and moisture barriers. According to Fire-Dex, this significantly reduces heat stress and cardiac failure for firefighters while also reducing the risk of cancer and other diseases by eliminating PFSA exposure through turnout gear.

149. Defendants, MSA/Globe, Honeywell, Tencate, and Gore have developed, manufactured, marketed, and/or sold PFA-free waterproofing technology, PFAS-free outer shells in turnout gear, and/or durable PFAS-free fabrics.

150. Defendant Honeywell even admitted that these PFAS-free alternatives are safe, feasible, and economical: "Any minor tradeoffs with PFAS-free fabrics are outweighed by worker safety. And the protection level is unchanged. PFAS-free gear offers the same thermal protection and moves the same way. The color fastness and wear remain the same."

151. While the technology to develop fluorine-free turnout gear has been available for years, the NFPA turnout standards-setting technical committee ("NFPA") continues to adhere to certain guidelines for turnout gear which requires PFAS – knowingly putting firefighters at risk for exposure to PFAS. This committee includes industry consultants, textile, and gear manufacturers and representatives of Defendants Lion, Tyco, and Honeywell.

152. The economic and technological feasibility of fluorine-free foams and turnout gear is well-established and based on technology that has been available for years. The alternative designs detailed above are far safer for firefighters and eliminate the serious health risks that result from PFAS exposure.

153. The only barrier to producing safer alternatives to PFAS-containing foams and turnout gear has been Defendants' opposition. Their continued manufacturing, marketing,

selling, and/or distributing PFAS-containing foams and turnout gear exposed firefighters to toxic PFAS chemicals. These defective designs are and/or have been a substantial factor in causing Plaintiff's injuries.

154. Based on all of the foregoing, Plaintiff brings this action for damages and for other appropriate relief to compensate him for the significant harm Defendants' PFAS chemicals and PFAS containing products have caused.

H. Market Share Liability, Alternative Liability, Concert of Action, and Enterprise Liability.

155. Defendants in this action are manufacturers that control a substantial share of the market for turnouts, Class B foams, and/or chemical feedstock containing PFAS in the United States and are jointly responsible for the toxic exposure events of the firefighters in Massachusetts, and for causing the damages and injuries complained of in this Complaint. Market share liability attaches to all Defendants and the liability should be assigned according to each Defendants' percentage of the market for turnouts and Class B containing foam at issue in this Complaint. PFAS are fungible; it is nearly impossible to identify the exact Defendant who manufactured a given batch of turnouts, Class B foam, or chemical feedstock containing PFAS found free in the air, soil, or groundwater, and each of these Defendants participated in a state-wide and national market for turnouts, Class B foam, and/or chemical feedstock.

156. Concert of action liability attaches to all Defendants, each of which participated in a common plan to commit the torts alleged herein and each of which acted tortuously in pursuance of the common plan to knowingly manufacture and sell inherently dangerous turnouts, Class B foam, and/or feedstock containing PFAS.

157. Enterprise liability attaches to all of the named Defendants for casting defective products into the stream of commerce.

COUNT I
(BREACH OF IMPLIED WARRANTY OF MERCHANTABILITY – DESIGN DEFECT – MASS. GEN. LAWS CH. 106, § 2-314)
(AGAINST ALL DEFENDANTS)

158. Plaintiff incorporates by reference the allegations in paragraphs 1 through 158 above as if fully set forth herein.

159. Each Defendant designed, marketed, manufactured, and sold PFAS containing turnouts and/or Class B foams that were used by Plaintiff while Plaintiff was a firefighter with the Granby and Northampton Fire Departments.

160. Defendants knowingly placed their PFAS containing turnouts and/or Class B foams into the stream of commerce with full knowledge that they would be and were sold to end users in Massachusetts.

161. Defendants knew, or reasonably should have known, that their design, manufacture, marketing, and sale, as well as their customers' use of PFAS containing turnouts and/or Class B foam in an intended or reasonably foreseeable manner would result in firefighters, such as Plaintiff, being exposed to PFAS.

162. PFAS containing turnouts and/or Class B foams sold by Defendants were in the same condition when they were purchased and/or used as when they left Defendants' control.

163. Defendants' customers, including Plaintiff, used PFAS-containing turnouts and/or Class B foams sold by Defendants in a reasonably foreseeable manner and without any substantial change in the condition of the products.

164. As designers, manufacturers, marketers, and sellers of PFAS containing turnouts and/or Class B foams, Defendants had to make and sell products that are reasonably fit, suitable, and safe for their intended and reasonably foreseeable uses.

165. At all relevant times to this action, the PFAS containing class B foams and/or turnouts that Defendants designed, manufactured, marketed, and sold were dangerous to an extent beyond that which would be contemplated by the ordinary consumer.

166. As a direct and proximate result of the defects in Defendants' design, manufacture, marketing, and sale of PFAS containing turnouts and/or Class B foams, Plaintiff has suffered, and continues to suffer, extensive damages, including, but not limited to, non-Hodgkins lymphoma and treatment related thereto.

167. Based on Defendants' understanding of their own products, it was reasonably foreseeable that users of PFAS containing Class B foams and/or turnouts, such as Plaintiff, would suffer injuries, such as non-Hodgkin's lymphoma. Nevertheless, Defendants marketed and sold their defective products as safe and fit for their ordinary purposes and failed to warn users of the true risks associated with the use of PFAS containing Class B foams and/or turnouts.

168. At all times relevant to this action, the foreseeable risk to users of PFAS containing Class B foams and/or turnouts, such as Plaintiff, outweighed the cost to Defendants of reducing or eliminating such risk.

169. At all times relevant to this action, Defendants knew or should have known about reasonably safer and feasible alternatives to their PFAS containing Class B foams and/or turnouts, and the omission of such alternative designs rendered their PFAS containing Class B foams and/or turnouts not reasonably safe.

COUNT II
(BREACH OF IMPLIED WARRANTY OF MERCHANTABILITY – FAILURE TO WARN – MASS. GEN. LAWS CH. 106, § 2-314)
(AGAINST ALL DEFENDANTS)

170. Plaintiff incorporates by reference the allegations in paragraphs 1 through 170 above as if fully set forth herein.

171. Defendants were required to warn end users of the dangers posed by their PFAS containing turnouts and/or Class B foams and the harm that would result from the intended use of these products.

172. Defendants knew, or should have known, of the substantial risk to the health of end users that their PFAS containing turnouts and/or Class B foams, but they failed to warn, or inadequately warned of, the likelihood that end users would be exposed to PFAS during the normal and intended use of PFAS containing turnouts and/or Class B foams and would suffer harm through this exposure. To the extent Defendants provided any warnings about their products, they were not warnings that a reasonably prudent person in the same or similar circumstances would have provided with respect to the dangers posed by PFAS containing Class B foams and/or turnouts, and the warnings did not convey adequate information of the dangers of PFAS containing Class B foams and/or turnouts to the mind of a reasonably foreseeable or ordinary user.

173. Despite the fact that Defendants knew or should have known about the risks of PFAS containing Class B foams and/or turnouts, Defendants withheld such knowledge from the public. Moreover, Defendants affirmatively distorted and/or suppressed their knowledge and the scientific evidence linking their products to the unreasonable dangers they posed.

174. At no time relevant to this action did Defendants warn users and buyers of their PFAS containing Class B foams and/or turnouts, including Plaintiff, that Defendants' PFAS containing Class B foams and/or turnouts would lead to exposure to PFAS during the ordinary use.

175. Had Defendants provided adequate warnings about the hazards associated with their PFAS containing Class B foams and/or turnouts, reasonably foreseeable users and buyers of PFAS containing Class B foams and/or turnouts would have heeded those warnings.

176. As a direct and proximate result of Defendants' failure to warn of the hazards of the PFAS containing Class B foams and/or turnouts, Plaintiff has suffered, and continues to suffer, extensive damages including, but not limited to, non-Hodgkins lymphoma and treatment related thereto.

COUNT III
(NEGLIGENCE – DESIGN DEFECT)
(AGAINST ALL DEFENDANTS)

177. Plaintiff incorporates by reference the allegations in paragraphs 1 through 177 above as if fully set forth herein.

178. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising of PFAS containing turnouts and/or Class B foam and through that conduct have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments, or to companies that sold turnouts and/or Class B foam to fire departments for use by firefighters such as Plaintiff.

179. Defendants intended that the PFAS chemicals and/or PFAS-containing turnouts and/or Class B foam that they are and/or were manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising would be used by firefighters, including Plaintiff, without any substantial change in the condition of the products from when they were initially manufactured, sold, distributed, and/or marketed by Defendants.

180. Defendants also knew or should have known that Plaintiff would be exposed to PFAS through ordinary and foreseeable uses of these products for the purpose of firefighting activities and training.

181. Defendants had a duty to not endanger the health and safety of Plaintiff who was a foreseeable user of the PFAS-containing turnouts and/or Class B foams that Defendants are and/or were manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising as firefighter protective safety equipment.

182. Defendants' duty required that they exercise reasonable care in the manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising of turnouts and/or Class B foam.

183. Defendants breached their duty of reasonable care by negligently manufacturing, designing, selling, distributing, supplying, testing, inspecting, labeling, promoting, and/or advertising of PFAS-containing turnouts and/or Class B foam which were defective and unreasonably dangerous. The turnouts and/or Class B foam contained toxic PFAS chemicals which, as detailed above, are highly mobile, persistent known carcinogens, and immune system disruptors that pose a substantial likelihood of harm to firefighters even when used as directed by the manufacturer for its intended purpose of firefighting activities.

184. PFAS and/or PFAS-containing turnouts and/or Class B foam designed, manufactured, marketed, tested, advertised, promoted, sold and distributed by the Defendants is were/are unreasonably dangerous and defective in design or formulation because, at the time in which the products left the hands of the manufacturer or distributors, the utility and benefit of these products did not outweigh the risks inherent in the design or formulation of the PFAS-containing turnouts and/or Class B foam.

185. Firefighters wear their turnouts on every shift and use Class B foam regularly in training and firefighting activities. Defendants have known for decades that exposure to PFAS or PFAS-containing materials is toxic to humans and animals, and results in significant – often catastrophic – health effects, including cancer and birth defects. This risk is heightened for people, like Plaintiff, with consistent exposure to these chemicals which have a long half-life and impact the body on a cellular level. The risk of such serious health effects is not outweighed by the utility and benefit of PFAS or PFAS-containing turnouts and/or Class B foams, particularly in light of the availability of PFAS-free turnout gear and firefighting foam.

186. The turnouts and/or Class B foam designed, manufactured, marketed, tested, inspected, labeled, advertised, promoted, sold, and/or distributed by the Defendants were dangerous and defective in design or formulation because, when the PFAS-containing products left the hands of the manufacturer or distributors, these products posed significant health risks and were unreasonably dangerous in normal use.

187. Further, knowing of the dangerous and hazardous properties of PFAS and/or PFAS-containing turnouts and/or Class B foam, Defendants could have manufactured, marketed, distributed, and/or sold alternative designs or formulations of fluorine-free chemicals, fluorine-free turnouts and/or Class B foam.

188. These alternative designs and/or formulations were already practical, similar in cost, technologically feasible and/or available.

189. The use of these alternative designs would have reduced or prevented the substantial likelihood of harm to Plaintiff that was caused by the Defendants' design, manufacture, marketing, advertising, promotion, sale and/or distribution of PFAS and/or PFAS-containing turnouts and/or Class B foam.

190. Additionally, the turnouts and/or Class B foam that were designed, manufactured, marketed, tested, inspected, labeled, advertised, marketed, promoted, sold, and/or distributed by the Defendants contained PFAS or PFAS-containing materials that were so toxic and unreasonably dangerous to human health and the environment, with the toxic chemicals being highly mobile and persistent, that the act of designing, formulating, manufacturing, marketing, distributing, and/or selling these products was unreasonably dangerous and the foreseeable risks of causing serious health consequences exceeded the benefits associated with the design or formulation of PFAS-containing turnouts and/or Class B foam.

191. Defendants' design of toxic PFAS chemicals and/or PFAS-containing turnout gear and/or Class B foam was an unreasonably dangerous and substantial factor in causing Plaintiff's injuries.

192. As a result of Defendants' defective design, Defendants are liable for such injuries and damages to Plaintiff.

COUNT IV
(NEGLIGENCE – FAILURE TO WARN)
(AGAINST ALL DEFENDANTS)

193. Plaintiff incorporates by reference the allegations in paragraphs 1 through 193 above as if fully set forth herein.

194. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of turnouts and/or Class B foam containing PFAS or PFAS-containing materials and, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they

were sold to fire departments and/or to companies that sold turnouts and/or Class B foam to fire departments for use by firefighters, such as Plaintiff.

195. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of turnouts and/or Class B foam containing PFAS or PFAS-containing materials and, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments and/or to companies that sold turnouts and/or Class B foam to fire departments for use by firefighters, such as Plaintiff.

196. Defendants' turnouts and/or Class B foam containing PFAS or PFAS-containing materials were unreasonably dangerous for their reasonably anticipated use because exposure to PFAS poses a significant threat to human health.

197. Defendants knew or should have reasonably known that the manner in which they were designing, manufacturing, testing, inspecting, labeling, marketing, distributing, and/or selling turnouts and/or Class B foam containing PFAS was hazardous to human health, and that firefighters, like Plaintiff, would be exposed to PFAS through ordinary and foreseeable uses of turnouts and/or Class B foam in the course of engaging in firefighting activities and training.

198. Defendants had a duty to warn against such latent dangers resulting from foreseeable uses of its product of which it knew or should have known.

199. At the time of manufacture, distribution, promotion, labeling, and/or sale, Defendants could have provided warnings or instructions regarding the full and complete risks of turnouts and/or Class B foam containing PFAS or PFAS-containing materials.

200. Defendants breached their duty and failed to provide adequate warnings as to the potential harm that might result from exposure to PFAS or PFAS-containing products that would lead an ordinary reasonable user, such as Plaintiff, to contemplate the danger to human health posed by such products.

201. In fact, Defendants failed to issue any warnings, instructions, recalls and/or advice as to the danger of exposure to the toxic PFAS-containing turnouts and/or Class B foam, and the potential for such exposure to cause serious physical injury and disease.

202. Defendants also did not instruct Plaintiff on the proper steps he could take to reduce the harmful effects of previous exposure, the need to have periodic medical examinations including the giving of histories which revealed the details of the previous exposure, and the need to have immediate and vigorous medical treatment for all related adverse health effects.

203. Plaintiff did not and could not have known that the use of turnouts and/or Class B foam in the ordinary course of performing their duties as firefighters could be hazardous to their health, bioaccumulate in the blood, and cause serious health effects, including cancer - dangers which were not obvious to Plaintiff. Had Defendants adequately warned Plaintiff, he would have heeded such warnings.

204. The burden on Defendants to guard against this foreseeable harm to Plaintiff was minimal, and merely required that they provide adequate instructions, proper labeling, and sufficient warnings about their PFAS-containing products.

205. Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about the PFAS-containing turnouts and/or Class B foam and to take steps to eliminate, correct, or remedy any exposure or contamination they caused.

206. As a direct and proximate result of Defendants' negligent failure to provide adequate and sufficient warnings, Plaintiff suffered the injuries and damages described herein for which Defendants are liable.

207. Defendants acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully prays that this Court grant the following relief:

(1) Compensatory damages, including but not limited to, pain, suffering, emotional distress, loss of enjoyment of life, and other non-economic damages in an amount according to proof at time of trial;

(2) Compensatory damages for future damages, including but not limited to Plaintiff's pain and suffering and for severe permanent personal injuries sustained by Plaintiff, including for future health care costs, medical monitoring, fear of developing future illness or disease, and/or economic loss.

(3) An order establishing a medical monitoring protocol for Plaintiff and requiring Defendants to fund the medical monitoring protocol;

(4) Economic damages including but not limited to medical expenses, out of pocket expenses, lost earnings and other economic damages in an amount to be determined at trial;

(5) Punitive and/or exemplary damages for the wanton, willful, fraudulent, and reckless acts of the Defendants, who demonstrated a conscious disregard and reckless indifference for the safety and welfare of the public in general and the Plaintiff in particular, in an amount sufficient to punish Defendants and deter future conduct, to the extent allowed by law;

(6) Pre-judgment and post-judgment interest, at the legal rate, on all amounts claimed;

(7) Attorneys' fees and costs permitted by law;

(8) For equitable and injunctive relief, as necessary, to ensure that Defendants refrain from continuing to harm others;

(9) A declaration that Defendants acted with negligence, gross negligence, and/or willful, wanton, and careless disregard for the health and safety of Plaintiff; and

(10) Any such further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff demands a trial by jury on all issues so triable.

Plaintiff,
BRIAN KAZAK,
By His Attorneys,

Dated: November 27, 2024

/s/ Michael J. McAndrew

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